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Scientists ready to perform an experiment to put foreign genes into a human must first battle critics who sued to stop the research. Page A5.

In the faculty job market, it's not *what* you know, it's still whom you know and where you started, two new books say. Page A11.

The trustees of Mercer U. have proposed budget cuts to cope with a deficit that has led to angry charges of mismanagement. Page A11.

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250 students at the U. of Redlands took part in an innovative freshman course on ethics and morality. Page A29.

America's schools should teach less detailed knowledge about science and technology, a forthcoming report says. Page A29.

Two dozen legal scholars from South Africa have met with representatives of the outlawed African National Congress. Page A33.

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LOBBYISTS ARE WORRIED

Partisan Divisions on Key House Panel Seen Jeopardizing Education Measures

By ROBIN WILSON
WASHINGTON

Growing partisanship on a key House panel could jeopardize important education legislation that is expected to be considered this year, college officials fear.

The House Postsecondary Education Committee, where many of the most important bills affecting higher education originate, has been increasingly divided because of differences between Rep. Pat Williams, the Montana Democrat who is chairman of the panel, and Rep. E. Thomas Coleman of Missouri, its ranking Republican.

Different Approaches, Different Ideas

The two men have different approaches to drafting legislation and different ideas about how Congress should improve higher-education programs. They have even exchanged harsh words in public—something that is unusual for the leaders of an education subcommittee.

Educators are worried about the tensions because Democrats and Republicans on Capitol Hill have in the past worked closely on higher-education legislation. That bipartisan support, they add, has been crucial in paving the way for swift approval of important legislation and in blocking proposed budget cuts.

If the rift between Mr. Williams and Mr. Coleman continues, lobbyists say many key proposals will languish in the subcommittee or on the floor of the House, or be subjected to voting along party lines. In that case, they say, President Bush may be less likely to sign the legislation that does pass.

"We've had bipartisanship for many

Continued on Page A23

Record College Enrollments Mask Serious Flaws in Student-Admissions System, Experts Warn

By JEAN EVANGELAUF

Although enrollments are higher than ever, some educators are questioning whether the college-admissions system as a whole is serving students and society well.

With strenuous recruiting and by fashioning new programs to cater to untapped markets, colleges and universities have pulled off what many observers thought would be impossible: sustained high enrollments in the face of declining numbers of high-school graduates. Indeed, enrollments have topped 12 million throughout the 1980's and in the last year alone rose 2.4 per cent to a record 12.84 million, according to the U.S. Department of Education.

Nevertheless, some educators are not entirely happy with, in admissions jargon, "the great sort."

Says R. Russell Shunk, associate dean of admissions at Dickinson College: "In

Continued on Page A30

Colleges Face Tough Choices in 3 Northeastern States

Deficit-cutting efforts in Connecticut, Massachusetts, and New York are painful for colleges: Page A17.

Nobelist Found Guilty of Errors in Paper, but Innocent of Fraud

By DAVID L. WHEELER

A Nobel Prize–winning biomedical scientist and some of his colleagues are innocent of fraud but guilty of including "significant errors" in a scientific paper, a National Institutes of Health panel has concluded.

The panel of scientists convened by the N.I.H. said in a report released last week that it had found "significant errors of misstatement and omission, as well as lapses in scientific judgment and interlaboratory communication" in its investigation. The panel's investigation was followed by an additional examination of its conclusions by N.I.H. staff members.

Both investigations focused on a paper written by David Baltimore, director of the Whitehead Institute for Biomedical Research at the Massachusetts Institute of Technology, and several colleagues. The paper was published in a 1986 issue of the journal *Cell* and discussed the effect of genetic alterations on the immune systems of mice.

Charges Surfaced Last April

The scientific panel said "no evidence of fraud, conscious misrepresentation, or manipulation of data" had been found.

Allegations of possible scientific misconduct by Mr. Baltimore and others first surfaced publicly in Congressional hearings in April last year.

Some members of Congress have

Continued on Page A9

Vitriolic Student Paper Is Causing Lasting Harm, Many at Dartmouth Say

By LAWRENCE BIEMILLER
HANOVER, N.H.

Eight years after the founder of the Dartmouth *Review* paid for its first issue by cashing his student-loan check, the boastful, vitriolic weekly is getting more and more attention from the national news media. And it is dictating Dartmouth College's agenda to an extent no student-run newspaper ever has before, here or elsewhere.

The *Review* was founded in June 1980 by Greg Fossedal, who had just been ousted as editor of *The Dartmouth*. Although it had no official link to the college, the new tabloid won the backing of major donors in its earliest days—and proved controversial right from the first morning it was delivered, free, to dormitory rooms and faculty offices. Now averaging 16 pages a week, it has rarely gone more than a few months without publishing a story or causing

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BILL CONRADT, © 1988 VALLEY NEWS

Editor-in-Chief Harmeet K. Dhillon: "I don't think it's a valid contention that a journalist should avoid hurting feelings. If something's true, we're going to print it."

MARGINALIA

Food (and drink) for thought:

■

Among the charter members of University Microfilms' Early English Books Projects, according to an ad in this newspaper, is the University of Illinois at Urbana-Champagne.

■

News item in the *Stanford Daily*:

"A vandal or vandals stole part of a White Plaza structure built to house celebrations of the 10-day Jewish holiday 'Sukkot.' . . .

"During the 10-day holiday, which commemorates the Jewish people wandering in the dessert . . ."

■

Judith Muñoz, of the University of San Diego, found the following message in a fortune cookie:

"You will gain admiration from your pears."

■

From the Ball State University *Daily News*:

"The five newest members were inducted into the Athletic Hall of Fame in a ceremony Saturday night at Cardinal Hall. . . .

"After a meal for family, friends, and fellow inductees, the inductees were given their plagues. . . ."

Maybe it was something they ate.

■

From the Johns Hopkins *Peabody News*:

"*Good news from* NASA. The Hubble Space Telescope has a lunch date of December 1989, two months earlier than originally scheduled."

With a Milky Way for dessert?

■

Speaking of Milky Way: This message turned up on the answering machine in the admissions office at the New School for Social Research:

"Hi! I'm a loving person named ———. I have some valuable points to raise. Is it possible that the Rosetta stone is actually a communicator for the Milky Way? Is it? Or are we deluding ourselves? Is it possible that the world has overextended itself? Is it? I'm serious. I'm serious. Is the Rosetta stone—the Dead Sea scrolls—are they similar to what the earth, what the world has put in the Milky Way? Has it? Will it?"

■

From *The Cornerstone*, a newsletter for the faculty and staff at the University of Alaska at Fairbanks:

" 'Since we don't have a Supreme Court to adjudicate differences, we try to come to understandings,' says David Smith, the president of the UAF Faculty Senate. 'I sit on the Executive Council and eat lunch with the chancellor, and we try to let each other know what's going on in our respective bodies.' "

Indigestion, probably. —C.G.

In Brief

University Given Papers of Professor It Fired

The University of Vermont will receive the scientific and personal papers of a biochemist it fired in 1953 for refusing to aid a Congressional hunt for Communists in higher education.

Phyllis Novikoff donated the papers of her late husband, Alex Novikoff, to the university to demonstrate that he had forgiven the institution before his death in 1987.

The university fired Mr. Novikoff after he took the Fifth Amendment in testimony before a Senate committee. The Senators had asked him to identify Communists he had known when he taught at Brooklyn College of the City University of New York.

The papers will become part of the manuscript collection in the Vermont library. "I see them as being important for documenting that period in American history, to document academic freedom, and to document the history of the University of Vermont," said Connell Gallagher, the university's archivist and curator of manuscripts.

Opinion Extends Reach of Campus Discipline

Maryland's Attorney General issued an opinion last week that gave the state's public universities the power to discipline their students for actions off campus.

In the opinion, Attorney General J. Joseph Curran, Jr., said: "A state university or college may discipline a student for off-campus misconduct detrimental to the interests of the institution, subject to fundamental constitutional safeguards that apply to all disciplinary actions by educational officials."

State legislators asked Mr. Curran for the ruling after residents who live near the University of Maryland's College Park campus complained about being unable to stop students' raucous parties and destruction of property.

The ruling is at odds with the university's policy of the past two decades, which has been to insist that students, while off campus, be treated like other citizens.

University officials expressed reservations about the opinion. "For institutions to get involved with disciplining students off campus opens a Pandora's box," said Drury G. Bagwell, assistant vice-president for student affairs.

EPA Charges Violations by Haverford, Penn

The Environmental Protection Agency has charged Haverford College and the University of Pennsylvania with violating regulations that govern inspections and maintenance of equipment containing polychlorinated biphenyls, or PCB's.

In its complaints, the agency proposed penalties of $94,300 for Haverford and $274,500 for the university.

The violations were discovered during inspections that the agency conducted on the two campuses in February 1988.

At the University of Pennsylvania, the agency said, officials allowed transformers to leak PCB's fluids and failed to maintain records of inspections. The agency said Haverford had improperly stored combustible materials near a transformer that contains PCB's and failed to maintain records and conduct inspections.

Shelley Z. Green, general counsel at the university, said it had been "scrupulous in most instances" in complying with the regulations and intends to document its record for the agency.

Pamela M. Sheridan, Haverford's director of college relations, said college officials believed some of the charges were incorrect and would appeal at a hearing.

Flu Infects 12,000 at Penn State U.

An influenza virus infected about 12,000 students at Pennsylvania State University's main campus—the worst outbreak in several years.

Harry M. McDermott, director of university health services, said the University Park campus was the only one in the Penn State system affected by the virus, although other colleges in the state also reported outbreaks.

A survey conducted by state epidemiologists estimated that more than one-quarter of the campus's 37,000 students had some flu symptoms, although not all sought medical care at the university's health center.

The campus health center typically sees about 400 students daily, but that number rose to 550 during the flu outbreak.

Some other colleges have also reported a higher-than-usual incidence of flu, among them George Mason University and the University of Minnesota.

Abortion Protest Prompts Arrests at U. of Iowa

A protest outside a University of Iowa abortion clinic ended in the arrest of 155 demonstrators.

The anti-abortion activists were charged with criminal trespass after refusing requests to leave. Only a few were students, according to a university spokesman.

The campus facility is part of the University of Iowa Hospitals and Clinics.

Minority-Recruiting Tips Available in New Book

The American Council on Education has released a handbook of strategies to help institutions increase minority participation on their campuses.

The book outlines both tactics for recruiting minority students and ways to make campuses more hospitable to minority groups.

It also profiles three institutions—Miami-Dade Community

Student Linked to Computer 'Virus' Granted Immunity by U.S. Attorney

SYRACUSE, N.Y.

Robert T. Morris, Jr., the Cornell University graduate student believed to have created the computer "virus" that paralyzed a national research network last fall, has been granted limited immunity by the U.S. Attorney's office here. In return, he has agreed to cooperate with a federal investigation of the incident.

Mr. Morris is said to have told friends that he wrote the short computer program, but did not know that it would keep reproducing itself on the network until it clogged communication lines to some 6,000 computers.

According to Justice Department officials, the limited-immunity agreement might result in charges against Mr. Morris being reduced. The Computer Fraud and Abuse Act of 1986 makes it a misdemeanor—or in some cases a felony—to gain unlawful access to a government computer. The felony penalty is a maximum of 20 years in jail; the misdemeanor penalty is up to one year in jail and up to $250,000 in fines.

The computers that were attacked were reached over ARPANet, a network supported by the Defense Department.

Officials of the Justice Department and the Federal Bureau of Investigation would not discuss the case.

—JUDITH AXLER TURNER

Record-Breaking Cold Wave in Alaska Forces Changes on Campuses, but Few Classes Are Canceled Outright

By PETER MONAGHAN

SEATTLE

Temperatures far below zero have forced students and faculty members to change their daily routines on many Alaska campuses, but few classes have been canceled outright.

The record-breaking cold wave, during which readings of −50° Fahrenheit have been commonplace, last week prompted Gov. Steve Cowper to declare a state of emergency. Air transportation has been particularly hard hit, and many towns and villages have been cut off for as long as two weeks.

Most campuses stayed open, however, said Edee Rohde, director of information services at the University of Alaska's system office in Fairbanks.

−120° at Chukchi College

"It's business as usual," she said, although she added that many students were calling ahead before coming to class—just in case.

At Chukchi College—the northernmost on the continent—unofficial measurements put the wind-chill temperature at −120°. Chukchi, which is administered by the University of Alaska's Fairbanks campus, is in Kotzebue, 25 miles above the Arctic Circle.

By last week, Chukchi was "having a heat wave," said the campus director, Lynn Johnson. "It's warmed up to 40 below."

He said the college had closed for one day, when the wind-chill temperature dropped to between −120° and −110°. Staff members and students, most of them from the region and well versed in cold-weather survival, were guarding closely against frostbite and hypothermia, Mr. Johnson added.

"You've just got to dress for it and not take any chances," Mr. Johnson said. "In Kotzebue, the distances you're walking are not all that terrible."

He added, however, that the cold had forced an extension of the semester. Many of the college's off-campus-learning programs, which rely on radio and audiovisual links with students, also require that books be sent to the students in their villages. "Most books come in from Fairbanks," Mr. Johnson said, "but in some cases villages have had no mail delivery for two weeks."

Town Shrouded in Ice Fog

On some campuses, said Ms. Rohde, "people have not experienced this kind of cold before and are quite baffled by it."

"But the reality is that this is what Alaskan weather has always been," she said. "It's just that it's been years since it was this severe."

On a −50° day last week, she said: "At this moment, if I stand up, I can see that the town is shrouded in ice fog quite severely. I'm in a building slightly up the hill. Getting here is frightening."

Visibility was officially measured at one-eighth of a mile, she said, "but it's worse than that—we're talking about not being able to see the car three or four car lengths ahead of you."

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New AAAS Leader Draws Praise, Raises Concern

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out there aren't enough physicists," he added.

One mission of the science association, he said, is to explain to the public why support for research is so important. When research support fluctuates from year to year, the instability can make it very difficult for talented students to stay in science.

Asked about the current debate on setting priorities for federal spending on science, Mr. Nicholson said the nation needed to spend more on research. But priorities must be set, he added.

Views on Supercollider

In comparison to the urgency he expressed about training, Mr. Nicholson said the $4.4-billion Superconducting Supercollider was a project that could be delayed. He added, however, that it was intellectually exciting and said he hoped the country could pursue it.

Some science-policy experts last week praised Mr. Nicholson.

John C. Crowley, vice-president of the Association of American Universities, said he could describe Mr. Nicholson "only in superlatives."

"He is one of the most thoroughly professional and able individuals I've ever met in any of the federal agencies," Mr. Crowley added.

Irving Shain, the former chancellor of the University of Wisconsin at Madison, under whom Mr. Nicholson studied for his doctorate in chemistry, said the paper that Mr. Nicholson wrote for his doctoral thesis was so influential that it is now considered a classic in terms of the frequency with which other scientists have cited it in their own work.

Mr. Shain also praised Mr. Nicholson as having been vigilant in his defense of support for basic research during his years at the foundation. Mr. Shain also described him as articulate and knowledgeable in testifying before Congressional committees through the years.

Questions Over Role at NSF

Others still had questions about Mr. Nicholson's role in a recent controversy at the foundation, and about how strongly he had lobbied inside N.S.F. on behalf of basic research.

Program directors for the section of the N.S.F. that supports theoretical research on condensed matter—an office under Mr. Nicholson's purview that also supports superconductivity research— found a budget crisis on their hands a year ago.

Their predecessors had tentatively promised to give so much money to researchers for continuing projects that very little would have been available for new grants or to renew the awards of researchers whose grants had just ended. They made adjustments, but there were still few new awards for superconductivity research, even though there had been exciting breakthroughs in that area.

Mr. Nicholson called the situation "in large measure a management problem," and accepted responsibility for it. He said he now receives regular reports on the commitments that have been made for every program.

Herbert B. Shore, a professor of physics at San Diego State University, was one of the new program directors who discovered they had the budget problem last year. Mr. Shore said the directors had repeatedly tried to pass a warning about the pending crisis up through the organization, but that it had never reached Mr. Nicholson.

But Mr. Shore said he was more concerned that Mr. Nicholson and other top foundation officials had generally responded inadequately to the unusual opportunities in superconductivity research.

He added that, within N.S.F., Mr. Nicholson did not seem to be a strong advocate for basic research in mathematics and the physical sciences—the area for which Mr. Nicholson is responsible. That area is now woefully short of funds, he added. Other scientists whose work is financed through Mr. Nicholson's office have also complained about the lack of money for such research.

Others say Mr. Nicholson is largely untested in the role of taking a leading public role in science-policy debates. Some suggest that he may continue to play the loyal lieutenant under Richard C. Atkinson, the new president of the science association, who is experienced in such debates.

Still others, however, predict that Mr. Nicholson will do very well in his new role. "Certainly when he chooses to speak," said Mr. Crowley of the A.A.U., "people will listen."

College Officials Relieved by Drug-Law Regulations

Continued from Page A17

least temporarily—on the new rules, which will take effect next month. And the regulations closely follow the law.

Milton Goldberg, executive director of the Council on Governmental Relations, which represents research administrators at many major research universities, said he was pleased that the rules don't "go one whit beyond the law."

Moreover, the White House Office of Management and Budget, in an introduction to the new rules in the *Federal Register*, stated that drug tests of employees—which some college officials had feared would be required—would not be required.

However, the rules do not make clear exactly how student-aid benefits will be affected. The regulations do not mention student aid specifically. But they apparently would require students, before receiving a Pell Grant, to sign a statement certifying that they would not violate drug laws "in conducting any activity with the grant."

Student-aid administrators are concerned that the requirement may generate additional paperwork and make the process of applying for aid more confusing. Students already are required to sign statements saying they have registered with Selective Service before they can receive aid. As with that requirement, it is not expected that colleges will have to certify that students are telling the truth about whether they use drugs.

Requirements for Employers

Mr. Goldberg said he believed most colleges would not be bothered by the cost of following the rules because the drug problem is so severe.

The rules require employers who receive contracts of at least $25,000 and all grants to certify that they will keep the sites where the work covered by the specific grants or contracts will be performed free from illegal drugs by:

- Setting up a drug-awareness program for employees that provides information about any drug-counseling programs the employer chooses to offer, and describes the employer's policy against illegal drug use on the job and the penalties for employees who violate the policy.
- Requiring employees who are directly involved in federally supported work to notify the employer if they are convicted of having violated drug laws at work. The employer would be required to pass the information on to the federal government.
- Penalizing such employees or requiring them to take part in a drug-rehabilitation program.

Apparently, federal agencies will determine on a case-by-case basis whether an entire university or just the department conducting research will be considered the employer.

If an employer fails to make a "good faith" effort, the federal government could impose penalties. The most severe would be a ban on all federal awards for up to five years.

If an award of any size is made directly to a person—that is, if the check is written to an individual instead of to his or her university—that person would have to certify that he or she would not violate drug laws in spending the grant. That provision applies to recipients of Pell Grants, Education Department officials said.

The federal government will accept public comments on the new rules until April 3, after which it will decide on a final version of them.

—COLLEEN CORDES

FACT FILE: U.S. Funds for Colleges and Universities

The top 100 institutions in total federal obligations for fiscal 1987

	Research and development †		Total federal obligations †	
	Amount	Rank	Amount	Rank
Johns Hopkins U.	$374,656,000	1	$528,442,000	1
Stanford U.	201,049,000	2	225,369,000	2
Mass. Institute of Technology	187,623,000	3	209,520,000	3
U. of Washington	164,891,000	4	202,073,000	4
U. of California, Los Angeles	147,795,000	6	174,488,000	5
Cornell U.	128,695,000	11	169,259,000	6
U. of California, San Diego	151,768,000	5	167,637,000	7
Howard U.‡	9,173,000	137	166,784,000	8
U. of Michigan	134,977,000	7	162,625,000	9
U. of Minnesota	119,746,000	14	160,994,000	10
U. of Wisconsin, Madison	134,021,000	8	160,121,000	11
Columbia U., Main Division	130,724,000	10	157,970,000	12
Yale U.	132,909,000	9	152,379,000	13
Harvard U.	123,301,000	13	152,077,000	14
U. of California, San Francisco	124,811,000	12	144,658,000	15
U. of Illinois, Urbana-Champaign	96,761,000	17	138,686,000	16
Pennsylvania State U.	94,615,000	19	132,135,000	17
U. of Pennsylvania	109,388,000	15	130,570,000	18
U. of California, Berkeley	96,748,000	18	122,112,000	19
U. of Southern California	104,395,000	16	120,928,000	20
U. of Colorado	87,623,000	21	109,561,000	21
Washington U.	89,055,000	20	102,795,000	22
Duke U.	84,622,000	23	98,594,000	23
U. of Rochester	85,674,000	22	96,567,000	24
Ohio State U.	64,573,000	31	95,453,000	25
U. of Chicago	82,769,000	24	95,144,000	26
U. of North Carolina, Chapel Hill	81,473,000	25	92,141,000	27
New York U.	75,866,000	27	91,528,000	28
U. of Pittsburgh	72,236,000	28	89,070,000	29
U. of Arizona	64,491,000	32	87,546,000	30
U. of Texas, Austin	76,495,000	26	81,014,000	31
Inter American U. of Puerto Rico, San German	58,000	583	80,102,000	32
U. of Iowa	63,479,000	33	79,871,000	33
U. of Massachusetts, Amherst	57,913,000	35	77,837,000	34
Michigan State U.	48,897,000	47	76,270,000	35
Carnegie Mellon U.	69,454,000	29	75,967,000	36
Indiana U.	50,005,000	45	75,887,000	37
U. of Florida	52,888,000	43	75,850,000	38
U. of Alabama, Birmingham	62,240,000	34	75,304,000	39
U. of Utah	56,590,000	38	71,609,000	40
Yeshiva U.	65,028,000	30	71,603,000	41
Purdue U.	46,332,000	50	71,346,000	42
Georgia Institute of Technology	45,187,000	52	68,747,000	43
Boston U.	53,331,000	41	67,030,000	44
Case Western Reserve U.	56,774,000	37	65,418,000	45
U. of Miami	49,547,000	46	65,227,000	46
Northwestern U.	53,061,000	42	64,774,000	47
Louisiana State U.	36,581,000	61	63,203,000	48
Texas A&M U.	38,642,000	58	62,408,000	49
U. of Maryland, College Park	48,728,000	48	62,327,000	50
Vanderbilt U.	54,653,000	40	62,124,000	51
U. of California, Davis	50,289,000	44	61,667,000	52
California Institute of Technology	57,122,000	36	60,845,000	53
Baylor C. of Medicine	$56,255,000	39	$59,609,000	54
U. of Virginia	44,732,000	53	55,644,000	55
Gallaudet U.‡	1,050,000	270	55,184,000	56
U. of Cincinnati	34,488,000	65	53,938,000	57
Oregon State U.	40,059,000	55	53,775,000	58
Emory U.	47,294,000	49	53,698,000	59
U. of Puerto Rico, Regional Colleges Administration	0	—	53,687,000	60
U. of Oregon, Main Campus	16,560,000	104	52,123,000	61
U. of Texas Health Science Center, Dallas	45,994,000	51	51,827,000	62
Princeton U.	44,286,000	54	51,224,000	63
U. of Kentucky	23,906,000	85	49,237,000	64
U. of Georgia	33,489,000	66	49,184,000	65
U. of Connecticut	38,806,000	57	49,089,000	66
U. of California, Irvine	39,384,000	56	48,863,000	67
North Carolina State U.	30,195,000	70	48,129,000	68
Iowa State U.	17,459,000	102	46,046,000	69
U. of Illinois, Chicago	32,490,000	67	45,772,000	70
New Mexico State U.	25,072,000	83	45,567,000	71
Colorado State U.	31,492,000	68	44,153,000	72
U. of South Carolina	11,741,000	123	44,118,000	73
Rutgers U.	25,730,000	79	43,597,000	74
U. of New Mexico	25,158,000	82	43,426,000	75
Tufts U.	36,241,000	62	43,122,000	76
State U. of New York, Stony Brook	38,014,000	59	42,514,000	77
U. of Missouri, Columbia	22,035,000	89	41,993,000	78
Virginia Commonwealth U.	31,477,000	69	41,172,000	79
U. of Hawaii, Manoa	29,154,000	71	39,899,000	80
Rochester Inst. of Technology	2,485,000	203	39,567,000	81
Brown U.	27,710,000	74	39,327,000	82
Rockefeller U.	37,051,000	60	38,888,000	83
City U. of New York, Mount Sinai School of Medicine	34,851,000	63	38,437,000	84
Puerto Rico Jr. C.	0	—	38,182,000	85
Utah State U.	25,170,000	81	37,849,000	86
Virginia Polytechnic Inst. & St. U.	23,588,000	87	37,204,000	87
U. of Tennessee, Knoxville	18,517,000	98	37,019,000	88
Temple U.	21,361,000	91	36,762,000	89
State U. of New York, Buffalo	27,255,000	76	36,235,000	90
Woods Hole Oceanographic Inst.	34,711,000	64	35,620,000	91
U. of Kansas	22,988,000	88	35,200,000	92
U. of California, Santa Barbara	27,322,000	75	34,253,000	93
Georgetown U.	20,046,000	95	33,939,000	94
U. of Maryland, Baltimore	28,278,000	72	33,575,000	95
U. of Vermont	23,922,000	84	33,229,000	96
Oklahoma State U.	11,383,000	126	33,188,000	97
Arizona State U.	14,201,000	113	33,164,000	98
Florida State U.	25,680,000	80	32,902,000	99
U. of Nebraska, Lincoln	15,126,000	111	31,901,000	100
Total, 100 institutions	**$6,014,028,000**		**$8,176,687,000**	
Total, all institutions	**$7,240,090,000**		**$13,466,552,000**	

Note: Federal obligations are funds set aside for payment. Institutions do not always receive them during the year in which they were obligated. This table differs from one published in the November 23, 1988, issue of The Chronicle, which covered research expenditures for fiscal year 1987, not obligations.

† Amounts shown represent total obligations from 15 federal agencies that accounted for about 95 per cent of all federal obligations to universities and colleges in the United States and for virtually all federal obligations to such institutions for scientific and engineering research and development. The figures exclude research and development obligations to university-administered, federally financed research-and-development centers.

‡ Howard U. and Gallaudet U. receive substantial appropriations from Congress each year for general operating expenses.

SOURCE: NATIONAL SCIENCE FOUNDATION